

Remarks

Amendments to the Claims

Applicants noticed for the first time in preparing this response a typographical error in claim 23. Applicants have added "a" in front of cathode ray pin tube. No new matter has been introduced through the amending of the specification, drawings or claims.

Rejection of Claims under 35 U.S.C § 102

Claims 1, 29, and 31, are rejected under 35 U.S.C §102(b) as being anticipated by Kelly (U.S. Patent No. 5,093,602, "Kelly"). The Applicants respectfully traverse this rejection.

In regards to independent claim 1, claim 1 discloses a fluid-ejection device comprising: "at least one nozzle operatively associated with *at least one displacement unit configured to impart mechanical energy on fluid associated with the nozzle to cause a fluid drop to be ejected from the nozzle*; and, a cathode ray tube configured to supply energy *to selectively effect the displacement unit to control ejection of the fluid drop.*" *Emphasis added.* Applicants traverse Examiner's interpretation of Kelly. Kelly discloses, in Fig. 1, "[p]ump 29 is actuated to draw a liquid from liquid source 31 and force the liquid downstream through passageway 26, and hence through discharge orifice 24. Col. 5, lines 59-62, (Applicants note that numeral 29 appears to be missing in Fig. 1, however, Applicants believe that the commonly used symbol for a pump which is shown in Fig. 1 should have the numeral 29). Applicants assert that the only device disclosed, in Kelly capable of imparting mechanical energy on fluid associated with orifice 24 is pump 29. Applicants further note that in contrast to Examiner's assertion that membrane 40 is at least one displacement unit configured to impart mechanical energy on fluid associated with

the nozzle, Kelly discloses "[w]hile the pump 29 is in operation, electron gun assembly 41 and power source 60 are actuated to provide a beam 68 of electrons. The beam 68 is directed by focusing coil 58 through electron-permeable membrane 40 and hence into passageway 26. The beam enters the passageway through the membrane 40 at the beam inlet opening 38. The electrons in beam 68 pass downstream from the beam inlet opening generally parallel to axis 18, towards discharge orifice 24. As best appreciated with reference to FIG. 3 the electrons in beam 68 impinge upon the liquid 62 as the liquid passes through orifice 24." Col. 6, lines 17-28. Thus, Kelly discloses that electrons pass through the membrane 40 and then impinge upon the liquid 62. Kelly also discloses "[t]he beam spreads away from the axis 18 under the influence of mutual repulsion between the negatively charged electron and ions. Thus, the beam spreads radially outwardly, away from axis 18 into the body of the stream 66. As the electrons and ions impinge upon the liquid, the liquid assumes a net negative charge." Col. 6, lines 44-50. Applicants assert Kelly clearly discloses the use of an electron beam to impart electrical energy to a liquid through mutual repulsion between negatively charged electrons and ions. Because Kelly does not disclose all of the elements/limitations of independent claim 1 Applicants believe that the rejection of claim 1 has been overcome. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of independent claim 1 under 35 U.S.C. § 102(b) in respect to Kelly.

In regards to independent claim 29, claim 29 discloses a fluid-ejection device comprising: "a means for imparting mechanical energy on fluid contained in an associated chamber sufficient to cause fluid to be ejected from the chamber; a first conductor configured to deliver a first signal to the means for imparting mechanical energy; and, a cathode ray tube configured to deliver energy to the first conductor." Although claim 29 is not identical to claim 1 Applicants assert the reasons argued above for claim 1 are applicable to claim 29 as well. Applicants assert that Kelly

does not disclose a cathode ray tube configured to deliver energy to a first conductor configured to deliver a first signal to a means for imparting mechanical energy on fluid contained in an associated chamber sufficient to cause fluid to be ejected from the chamber. Applicants note that Kelly does not show any electrical conductor disposed between pump 29 of Kelly and electron gun assembly 41 of Kelly, thus, Kelly cannot disclose at least "a first conductor configured to deliver a first signal to the means for imparting mechanical energy; and, a cathode ray tube configured to deliver energy to the first conductor." Because Kelly does not disclose all of the elements/limitations of independent claim 29 Applicants believe that the rejection of claim 29 has been overcome. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of independent claim 29 under 35 U.S.C. § 102(b) in respect to Kelly.

Dependent claim 31 is dependent upon independent claim 29, and is therefore believed to be allowable as dependent upon a believed allowable claim. Accordingly, Applicants believe that the rejection of claim 31 has been overcome at least for this reason alone. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of dependent claim 31 under 35 U.S.C. § 102(b) in respect to Kelly.

In addition, in regards to claim 31, claim 31 discloses "wherein the electron beam source is configured to deliver the energy independent of any fluid-ejection device integrated control circuitry." Examiner asserts that the elements/limitations of claim 31 are disclosed in Kelly in Col. 5, lines 45-56, and in Fig. 1. where Kelly discloses a conventional power source 60 of the type commonly employed for electron beam operations. Examiner provides no reasoned argument as how a conventional power source discloses "wherein the electron beam source is configured to deliver the energy independent of any fluid-ejection device integrated control circuitry," as disclosed in claim 31. Applicants respectfully disagree with Examiner that Kelly

discloses the elements/limitations of claim 31. Applicants do not see how a conventional power source 60 discloses the elements/limitations of claim 31. Because Kelly does not disclose all of the elements/limitations of dependent claim 31 Applicants believe that the rejection of claim 31 has been overcome. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of independent claim 31 under 35 U.S.C. § 102(b) in respect to Kelly.

Applicants acknowledge the allowance of claims 10-14, 16-26, 28, 30, and 33-37. Applicants also acknowledge that claims 2-9 and 30 are objected to as being dependent upon a rejected base claim. While Applicants agree with Examiner's conclusions regarding patentability without necessarily agreeing with or acquiescing in the Examiner's reasoning. In particular, Applicants submit that the above identified claims are allowable because the prior art fails to teach, anticipate, or render obvious the invention as claimed independent of how the invention is paraphrased.

In view of the above, it is respectfully submitted that this case is in condition for allowance and now may be passed to issue forth with. A holding to this effect is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this patent application, the Examiner is invited to contact the undersigned attorney during normal Pacific Time Zone business hours.

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